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ANNUAL REPORT ON THE ENVIRONMENT

**CHAPTER VI**

**HAZARDOUS  
MATERIALS**

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## **VI. HAZARDOUS MATERIALS**

### **A. ISSUES AND OVERVIEW**

#### **1. Overview**

Fairfax County hazardous materials (HAZMAT) concerns may be considered less significant as compared to other jurisdictions; the industrial base within the County is relatively “clean”. Nevertheless, the County does have its share of problems. The main concerns are hazardous materials incidents involving spills, leaks, transportation accidents, ruptures, or other types of emergency discharges. Secondary is the use and disposal of hazardous materials in either daily household activities or by small quantity commercial generators. The final concern is the clean up and regulation of hazardous materials.

During the year 2001, Fairfax County handled some unique hazardous materials issues. During the consideration of an amendment to the County’s Zoning Ordinance, the County studied the environmental effects of Perchloroethylene (also called PERC or tetrachloroethylene), a chemical used by dry cleaners located in residential neighborhoods. After September 11th and the October Anthrax incidents, Fire and Rescue responded to numerous “white powder/suspicious item” reports throughout the County. The Federal government used a site within the County for Anthrax Decontamination as well.

Although the news media is constantly reporting industrial and transportation related hazardous materials incidents, there is a general lack of awareness by the public of health and safety risks associated with the use, storage, and disposal of common household hazardous materials. Educating the public on the implications of these hazardous materials on peoples’ lives remains a significant goal.

#### **2. Hazardous Materials Incidents**

Fairfax County Fire Chief Edward L. Stinnette reports the following:

“The Fire and Rescue Department Operations and/or Hazardous Materials and Investigative Services Section respond to all reported incidents of hazardous materials releases, spills and discharges. The County has a well-equipped hazardous materials response team. The primary unit operates from Fire Station 34 in Oakton and three satellite units are stationed at Fire Station 1 in McLean, Fire Station 11 in Alexandria, and Fire Station 26 in Springfield. These units are strategically positioned to provide rapid response and adequate coverage throughout Fairfax County. Response

personnel are trained and equipped to initiate product control and mitigation measures to prevent or minimize the adverse environmental impact and damage.

The Hazardous Materials Response Team responded to 710 incidents in CY 2001. These incidents included the release of products into the air, water, and soil. The majority of the incidents continue to be hydrocarbon and corrosive releases. In addition, there were hundreds of small releases such as gasoline, diesel fuel, antifreeze, [and] hydraulic fluid that were handled by first responder units. In CY 2000, the Fire and Rescue Department placed in service a Spill Control Unit at Fire Station 35. This unit carries bulk supplies for spill control, absorption, and containment efforts. The team conducted regular training sessions, as well as practical exercises, with surrounding jurisdictions, and state and federal agencies.

In addition to the efforts of the Operations Division and Hazardous Materials Investigative Services Section personnel, the Fire and Rescue Department maintains a contract with a major commercial hazardous materials response company to provide additional support for large-scale incidents. The Fire and Rescue Department is committed to protecting the environment and the citizens through proper enforcement of the code or rapid identification, containment, and cleanup of hazardous materials incidents.

The Hazardous Materials and Investigative Services personnel respond to reported incidents and investigate complaints of potential and actual releases, many of a non-emergency nature. During CY 2001, response incidents, which had the potential to discharge hazardous materials into storm drain or surface water, included: 68 improper disposal; 2 pipeline incidents; 90 various types of produce releases, and 203 petroleum releases.” (1)

From the preceding year, the number of improper disposals more than doubled and the number of various types of product releases and the petroleum releases more than tripled.

### **3. Anthrax**

The Fairfax County Fire and Rescue Department reported the following:

“Beginning on October 13, 2001 Fairfax County experienced a phenomenon of public anxiety and fear that has not occurred in the recent past. From October 13<sup>th</sup> to December 31, public safety agencies responded to over 1,800 suspected anthrax or ‘white powder’ incidents.

Fire and Rescue had established response procedures for biological incidents almost two years before this rash of events. In the past, however, only single events were encountered and nobody had envisioned the large number of 'good intent,' yet false calls, hoaxes, and credible incidents. Public safety agencies were required to place additional staff and units in service in order to meet the response demands. The Health Department established an "Anthrax Hotline" to address citizen's questions and concerns.

The scope of the problem as well as the overwhelming number of calls required a coordinated effort from County agencies including, Office of County Executive, Office of Public Affairs, Fire and Rescue, Police Department, Health Department, Emergency Management, and others. Numerous meetings were conducted to develop a strategic plan that ensured the following:

- Protect the public and responders through safe and effective emergency response
- Provide accurate information and recommendations to the public in a timely manner
- Manage the distribution of medications if necessary
- Investigate and prosecute any criminal activities, i.e. threats, hoaxes
- Provide follow-up services as necessary

The Board of Supervisors scheduled public forums in the various districts in order to provide information on anthrax and emergency preparedness in general.

The Board of Supervisors and County agencies also provided oversight to several anthrax remediation efforts (investigations, decontamination of mail) that were located in, or proposed for the County." (2)

Information about Anthrax and biological agents can be found on the INOVA web site: [www.inova.org](http://www.inova.org) and the Center of Disease Control web site: [www.cdc.gov](http://www.cdc.gov).

The Fire and Rescue Department received funding to increase its mass decontamination capabilities, to purchase additional substance investigation instrumentation, and to enhance computer technology. In addition, the Federal grant funds available to Fairfax County will be used for communication upgrades, upgrades to the Emergency Operation Center, and the purchase of HAZMAT clothing and equipment. Funds have been identified for large-scale activities that will be useful for many different circumstances including terrorism.

## **4. Hazardous Materials in the Waste Stream**

The disposal of household and small quantities of non-household hazardous materials into the waste stream continues to be a concern. Unlike hazardous materials incidents, the immediate impact is not as dangerous. However, the long-term impact can be just as severe. Hazardous materials in the waste stream are contaminating landfills. Sometimes hazardous materials are dumped illegally, which leads to stream and groundwater pollution and soil contamination. Household hazardous wastes are products used in and around the home that are flammable, corrosive, reactive, or toxic. These hazardous materials potentially can cause a safety problem if various household chemicals become mixed when disposed of with the regular trash. By disposing of household hazardous wastes separately in the appropriate manner, these materials can be properly handled and packaged to minimize exposure to potentially harmful chemicals and decrease the likelihood that these chemicals will enter the environment.

### **a. Used Automotive Oil and Fluids**

A recent year-long study by the Northern Virginia Planning District Commission (NVPDC, now the Northern Virginia Regional Commission, or NVRC) for the Department of Environmental Quality estimates that approximately three to 4.5 million gallons of used oil, and approximately one million gallons of antifreeze, are “lost” in the environment each year through improper disposal by “do-it-yourselfers”, or DIYers. DIYers change their own automotive fluids (including oil, oil filters, and antifreeze) and account for 40 to 50% of those owning passenger cars. Only 15 to 30% of DIYers are believed to properly recycle or dispose of used oil. One percent or less of DIYers recycle oil filters.

This study resulted in a recommendation to reestablish a Statewide used oil recycling program aimed at capturing what amounts to the 1989 Exxon Valdez oil spill every four years. As a part of the study, NVPDC developed a database of all known collection centers in Virginia – 471 private and 125 public. The study also revealed that there are about the same number of collection facilities in 1999 as in the late 1980s; however, the volume of oil generated has increased roughly 100,000 gallons per year because of more cars on the road. Convenience and public education were found to be major factors in whether DIYers recycle or not. (3)

### **b. Dumping into Storm Drains**

Storm drains carry stormwater runoff from streets (see the Water Resources chapter of this report). This water is not treated and goes directly into local streams. All streams in Fairfax County eventually flow into the Potomac

River, which empties into the Chesapeake Bay. Anything dumped down a storm drain will follow the same path as the stormwater runoff. (4)

The cleaning up of animal waste and the disposal of such wastes down storm drains, as well as the disposal of leaves down the storm drains, are attempts at doing a service that have the effect of introducing pollutants directly into County streams. There are deliberate disposals of chemicals, oils and other items into the storm drains as “out-of-site, out-of-mind”. In either situation, there is a misperception that the storm drains are part of the County sewage system and that the disposal of materials down these drains does not provide a direct impact to the environment.

## **5. Pipelines**

The following was reported by the Fairfax Joint Local Emergency Planning Committee:

“More than 3,000 companies operate some 1.9 million miles of natural gas and hazardous liquid pipelines in the United States. The pipeline network includes 302,000 miles of natural gas transmission pipelines operated by 1,220 firms, and 155,000 miles are hazardous liquid transmission pipelines operated by 220 outfits. In addition to transmission pipelines, 94 liquefied natural gas facilities operate in the United States.” (5)

Pipelines traverse Fairfax County carrying refined petroleum for two companies and natural gas for three companies. The Office of Pipeline Safety in the U.S. Department of Transportation regulates pipeline design and the construction, operation, and maintenance of pipelines to ensure safe transportation of hazardous liquids and natural gas. (6)

## **6. Rail Transport of Hazardous Materials**

Chemicals and materials that are hazardous have regularly been transported by rail. Accidents or leaks have been, and continue to be, a cause for concern. Post September 11 has introduced additional concerns.

Potential future shipments of nuclear radioactive waste by rail (and by truck) will travel through parts of the Washington, D.C. metropolitan area. Should an accidental or intentional incident occur, the effects and impacts could extend beyond that initial area.

The July 18, 2001 CSX Train fire in a Baltimore, Maryland tunnel was an unintended incident involving a train car with hazardous materials and had wide-range, long-term consequences. Major sections of the downtown were closed, businesses were impacted, Orioles’ games had to be rescheduled, and portions of a major street were closed for five weeks.

Rail through Fairfax County is in the eastern and southern portions of the County and does not include tunnels. Residents are generally not located as close to the rails in Fairfax County as in other jurisdictions. However, some hazardous materials, alone or in combination, when released can affect areas up to miles from the initial site of the incident. It is conceivable that Fairfax County residents could be impacted with hazardous materials from a rail incident in another jurisdiction.

## **B. PROGRAMS, PROJECTS, AND ANALYSES**

### **1. Fairfax Joint Local Emergency Planning Committee (FJLEPC)**

The FJLEPC is comprised of representatives of the City of Fairfax, the towns of Herndon and Vienna, Fairfax County, and local business and citizens groups. The Virginia Emergency Response Council appoints representatives. LEPCs are required by Section 301[c] of Title III of the Emergency Planning and Community Right-to-Know Act (EPCRA), a freestanding provision of the Superfund Amendments and Reauthorization Act of 1986 (SARA). The committee is responsible for preparing and annually updating the Hazardous Material Emergency Response Plan (HMERP). The FJLEPC also is required to compile information on the facilities within its jurisdiction that use, store, or manufacture hazardous materials in amounts equal to or greater than the threshold planning quantities (TPQ). Businesses with extremely hazardous materials with over the TPQ amounts must prepare a Hazardous Materials Response Plan. The plan consists of notification procedures in the event of an incident, on site means of detecting incidents, evacuation plans, clean-up resources, and identification of parties responsible for the site.

FJLEPC conducted a HMERP exercise on September 29, 2001 at the Exxon facility located at the Newington Tank Farm. The exercise was a multi-agency, single jurisdiction exercise that simulated a fire at the tank farm. The Fire and Rescue units used their incidents management training, the FJLEPC HMERP, and the facility preplan to practice tactical exercises and identify environmental issues.

Another non-FJLEPC exercise was conducted on September 8, 2001 with participation from local, state, and federal agencies. FJLEPC member agencies also participated. It was a Sarin Release Exercise that had approximately 90 patients. The exercise included identification of the hazardous materials, determining the proper antidote, and decontamination procedures. These exercises allow emergency personnel to practice plans and basic principles that apply in any emergency situation, including terrorism.

FJLEPC provides education and outreach to the public. Information is disseminated through fliers, FJLEPC's newsletter, and its web site:

<http://www.lepcfairfax.org>. Two newsletters were mailed to over 1,500 homeowner associations, providing citizens with useful hazardous materials information and educating them about hazards in the home. The newsletters also provide information on the proper disposal of, and regulatory issues with regard to, hazardous materials. (6) FJLEPC is available to speak to groups and is planning to update the citizen brochures on reporting hazardous materials incidents and dealing with evacuation.

## **2. Railroad Transportation Plan**

The CSX Transportation, Hazardous Material Systems, has a hazardous material emergency response plan. A written copy of that plan is on file with FJLEPC and the Fairfax County Fire & Rescue Hazmat Station 34. The web site for CSX is: [www.csx.com](http://www.csx.com)

## **3. Storm Drain Stenciling Program**

The Northern Virginia Soil and Water Conservation District (NVSWCD) has a Storm Drain Stenciling Program which encourages youth and community groups to educate the public about the dangers of dumping anything into storm drains. This is a two-part program that includes education and stenciling of the drains. The mandatory educational component must be completed prior to stenciling, and includes distributing flyers to all homes in the neighborhood regarding how to properly dispose of household and pet waste, yard debris, and used motor oil. Trained volunteers then stencil “Dumping Pollutes – Drains to Stream” on storm water inlets in pre-approved (Virginia Department of Transportation--VDOT) areas. This program has proven to be an effective, low-cost method of educating large segments of the population about water quality problems. NVSWCD has reported that, last year, more than 1,100 households were educated with this program. (7)

## **4. Household Hazardous Waste Program (HHW)**

Fairfax County operates permanent HHW collection centers as a part of its recycling program for residents of Fairfax County. Information on the locations, hours of operation, types of wastes accepted and how to dispose of the wastes can be found on the County’s web site [www.co.fairfax.va.us](http://www.co.fairfax.va.us). This information can be found under Public Works and Utilities and under Environment.

Participation in the HHW collection program has resulted in many items being disposed of at the centers that are not hazardous waste. In addition to the confusion of what should be recycled as HHW, the inconvenience of not having collection sites located throughout the County may be affecting the participation.



In FY 2002, there were 16,272 participants disposing of 368,060 pounds of HHW. This included 5,955 gallons of antifreeze, 76,007 gallons of motor oil, 6,197 lead acid battery cores, and 59,980 gallons (or 150 tons) of latex paint. This is a slight increase from FY 2001, when there were 15,312 participants disposing of 356,275 pounds of HHW. That included 6,250 gallons of antifreeze, 59,868 gallons of motor oil, and 57,375 gallons of latex paint. FY 2001's totals are approximately the same as the totals for the three preceding years. (8) Considering the population and business growth in the County during this five-year period, HHW recycling does not seem to be keeping pace.

## **5. Commercial Hazardous Wastes**

The Conditionally Exempt Small Quantity Generator (CESQG) program has been reestablished on a limited bases. A CESQG is any business that generates less than 220 pounds or 27 gallons of HAZMAT during a month. There is a fee for disposal of HAZMAT that the CESQG pays directly to the contractor operating this program. Commercial hazardous waste generators that do not qualify as CESQGs should look to commercial hazardous waste disposal companies for support. For more information about CESQG and a list of commercial hazardous waste disposal companies, access the County's web site. (9)

## **C. REPORTING ENVIRONMENTAL CONCERNS AND ISSUES**

Environmental issues affect everyone living and working in the County. All environmental concerns and events negatively impacting the County should be reported. A list of contact information relating to environmental crimes is provided in Table VI-1 below.

## **D. LEGISLATIVE UPDATE**

During 2001, there were no legislative issues and/or regulatory changes with regard to hazardous materials.

<b>Table VI-1</b> <b><u>HOW TO REPORT ENVIRONMENTAL CRIMES</u></b>	
<b><u>Type of Incident</u></b>	<b><u>Phone Number</u></b>
<b><u>ANY ACTIVE RELEASE OF MATERIALS INTO THE ENVIRONMENT</u></b> <p>If the dumping of any substance into a stream, into a manhole, into a storm sewer, or onto the ground is witnessed, assumptions regarding the contents of the materials should not be made. 911 should be called immediately. When calling 911, be prepared to provide specific information regarding the location and nature of the incident. The local office of the U.S. Environmental Protection Agency (703-235-1113) can be called in addition to (but not instead of) 911.</p>	<b>911</b>
<b><u>HAZARDOUS MATERIALS-DANGEROUS</u></b> <p>If a suspected hazardous substance is being released, if lives are in danger, or if property is threatened, 911 should be called immediately. It is also appropriate to call 911 anytime an active release is witnessed.</p>	<b>911</b>
<b><u>HAZARDOUS MATERIALS-NO IMMEDIATE DANGER</u></b> <p>If a known discharge of hazardous materials has occurred in the past and no lives or property are in immediate danger; this must be reported to the Fairfax County Fire and Rescue Department's Hazardous Materials and Investigative Services Section at this number (includes Towns of Clifton, Herndon, and Vienna). If there is any question about whether a release may still be active or whether there may be any immediate danger, 911 should be called.</p>	<p>During working hours, call: <b>703-246-4386</b></p> <p>After hours, call: <b>703-691-2131</b></p>
<b><u>RELEASE OF ANY MATERIAL INTO THE ENVIRONMENT</u></b> <p>Any release of materials into the environment, whether hazardous or not, should be reported to the Northern Regional Office of the Virginia Department of Environmental Quality at the above number. If the release is an active one, call 911.</p>	<b>703-583-3800</b>

<b>Table VI-1 (continued)</b>	
<b><u>HOW TO REPORT ENVIRONMENTAL CRIMES</u></b>	
<b><u>Type of Incident</u></b>	<b><u>Phone Number</u></b>
<b><u>EROSION AND SEDIMENTATION</u></b> If the illegal removal of trees, the illegal clearing of land, and/or the illegal dumping of fill is suspected, contact Fairfax County's Code Enforcement Division at the number above. This number should also be contacted if siltation and other harmful effects of construction activity are occurring or observed on neighboring lands and waterways. All calls received during non-working hours will be responded to during the next business day.	<b>703-324-1937</b>
<b><u>HEALTH HAZARDS</u></b> In addition to the above contacts, if a health hazard is suspected, contact the Environmental Health Administration at the above number. The Health Department's Community Health and Safety Section (703-246-2300) can also be called. Asbestos-specific releases should also be reported to the Health Department.	<b>703-246-2205</b>

## **E. RECOMMENDATIONS**

1. EQAC recommends an aggressive public education campaign on how to properly dispose of household/residential, commercial, and industrial hazardous waste. A "How To" chart that can be easily read and kept for continued reference is suggested. Partnering with groups and businesses to provide the money and much of the work is suggested
2. The reporting of PERC (Perchloroethylene) releases is limited to those incidents where the business, usually dry cleaners, is currently operating. Ground contamination from businesses no longer in operation are only reported if the chemical has reached a water source or affects another property. EQAC recommends the reporting of all ground contamination that requires environmental cleanup prior to land use applications.
3. Environmental crimes require citizens' eyes. EQAC recommends an advertisement and educational campaign to state what types of hazardous materials and other environmental situations citizens are requested to report including who they are to contact. This could be done through community association newsletters, press release story to the media, and age appropriate material sent home through the schools.

## REFERENCES

1. Fairfax County Fire & Rescue, Chief Edward L. Stinnette, April 26, 2002 memo.
2. Fairfax County Fire and Rescue Department; correspondence to Noel Kaplan, Fairfax County Department of Planning and Zoning
3. Northern Virginia Planning District Commission, *Nvironment*, Vol.12, Number 1, Fall 1999, p1.
4. Northern Virginia Soil & Water Conservation District, *1999-2000 Annual Report*, page 10.
5. *LEPC Connection: A Virginia Local Emergency Planning Committee Newsletter*, Fall 2000, p 1.
6. Fairfax Joint Local Emergency Planning Committee
7. Northern Virginia Soil & Water Conservation District
8. Fairfax County Division of Solid Waste, Disposal and Resource Recover, HHW Disposal Program, Cliff Taylor, June 30, 2002 memo
9. Fairfax County Web site:  
[www.co.fairfax.va.us/dpwes/trash/disposal%Fhazcommer.htm](http://www.co.fairfax.va.us/dpwes/trash/disposal%Fhazcommer.htm)
10. Previous EQAC authors of this chapter and material